US Army Medical Research and Materiel

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Catheter Securing Device and Bite Block

This invention is a device for securing a catheter inside a patient's mouth. It includes a balloon, bite block, and shield. The balloon can be inflated within the patient's mouth on the exterior of the catheter to immobilize it and prevent inadvertent withdrawal. When deflated, relative movement of the catheter and the securing device and their removal are allowed.

Endotracheal tubes are a type of catheter that can be inserted through the oral cavity of a patient and into the trachea to provide for the supply of fluids to the body, for the monitoring of internal conditions in the body, or to provide for removal of secretions from within the body. It is difficult to properly secure catheters to a patient's face to prevent inadvertent advancement of the catheter into the patient's trachea or extraction from the mouth. This invention provides a means of securing the catheter. Occlusion of the catheter by a patient's teeth can lead to hypoxia, hypercarabia, and negative pressure pulmonary edema syndrome. The invention prevents occlusion by including a bite block. The balloon extends from the distal end of the bite block and a shield extends from the proximal end. The shield is large enough to prevent it from entering the patient's oral cavity. When the balloon is inflated it swells to contact the hard palate and lingual surface of the patient's mouth. The balloon may be a commercially available balloon of the type generally used [illegible] endotracheal tubes in place.

The invention may be used in both human and veterinary medicine. It can be used without the neck straps, tapes or adhesions that typically hold endotracheal tubes in place.

Features and advantages:

- **Prevents occlusion of the endotracheal tube lumen when the patient bites down**
- **Functions regardless of the presence of facial hair, dirt, blood, debris, or facial trauma**
- **Provides a quick, easy, and reliable means of securing a respiratory tube or catheter**
- **May work on patients requiring [illegible] laryngeal, or combitube intubation**

Patent Status

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Point of Contact

Dr. Paul C. Mele
Director, Office of Research and Technology Applications
USAMRMC, MCMR-ZA-J
504 Scott St., Ft. Detrick, MD 21702-5012
E-mail: usamrmcorta@amedd.army.mil
Voice: 301-619-6664/2065/7219 Fax: 301-619-5034
KEYWORDS: simple, one-step, self-contained, balloon-deployed universal endotracheal tube securing device

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